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CHOICE, REWARD, AND ATTRIBUTION OF
RESPONSIBILITY: ATTRIBUTION FOR
UNINTENDED NEGATIVE OUTCOMES

by



GORDON JOHN MACWILLIE

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Choice, Reward and Attribution of Responsibility: Attribution for Unintended Negative Outcomes", submitted by Gordon John MacWillie in partial fulfilment of the requirements for the degree of Master of Arts.

ABSTRACT

The attribution of responsibility to a victim for a negative outcome effected by his actions was examined. Two kinds of actions were specified which may be implicated in a victim's negative outcome. One is actions which effect a positive outcome, but also engage the risk of a negative outcome (PORE actions). The other is actions, either of omissions or commission, which increase the risk of negative outcomes (NORI actions). One of the distinguishing characteristics of PORE and NORI actions is that when a positive outcome is being effected, the risk engaged by PORE actions is unavoidable, while the risk caused by NORI actions can be reduced. It was viewed that there is a preference to attribute responsibility to NORI actions, but if responsibility cannot be attributed adequately to these actions it may be attributed to PORE actions.

The influence of two variables on attribution of responsibility was examined: the degree of choice in accepting the risk of a negative outcome (Choice), and the expected utility of a positive outcome (Reward). It was reasoned that considerable responsibility would be attributed by a person to his PORE actions for a negative outcome when he had no actions to reduce the risk of an uncompensated negative outcome (No Reward), but had choice to accept the risk (Choice). When a person attributed his

own negative outcome to PORE actions this mode of attribution should generalize to the fate of others.

These expectations were tested by creating a situation in which a person expected to receive random electric shocks which were independent of his performance. Either he had Choice to participate, or No Choice to participate, in the experiment. He expected to receive either financial compensation (Reward), or no financial compensation (No Reward), for the shocks. Following these manipulations, a test was administered to measure the subject's attribution of responsibility to the NORI and PORE actions of other victims involved in unpleasant consequences. It was expected that a decrease in the salience of NORI actions, and an increase in the salience of PORE actions is considerably greater when a person had Choice and No Reward than under any other condition.

A two-way, Choice X Reward, interaction ($F=5.66$, $df=1/36$, $p<.05$) offered some support for the expectation that the difference between attribution to NORI actions and PORE actions would be lower in the Choice-No Reward condition. However, also contributing to that interactions were the scores for the No Choice-Reward condition. Apparently a change in the relative salience of PORE and NORI actions also occurred when a person had No Choice and Reward. A possible explanation was offered for this result.

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INTRODUCTION

One of the more important cognitions which man has about himself is that he is responsible, or answerable, for his behavior and its effects. The notion of responsibility has supplied the subject matter for many artistic, philosophical, and religious works, and is central to a wide range of social practices and theories.

Comparatively few psychological investigations have been directed towards understanding the phenomena of attribution of responsibility. Traditionally, the study of responsibility has been the domain of ethics and theology. The questions posed by these disciplines have concerned moral issues, such as why, to whom, and for what, man is responsible. It is not too surprising that scientific psychologists have not explored extensively an area in which the traditional methods of inquiry are directed toward answering moral questions. An area encrusted with moral evaluations may not seem too inviting or promising for a scientific behavioral approach.

However, there are important reasons why psychologists should investigate the process of attribution of responsibility. As Heider (1958) pointed out, a person's naive interpretation, or common sense psychology, is essentially a part of the phenomena to be investigated by scientific psychology. Another reason, also supplied by

Heider, for the study of responsibility is that naive psychology contains concepts and hunches which may be of value for the understanding of behavior. The task is to explicate these concepts and hunches into hypotheses which are amenable to scientific investigation.

Existing psychological research in the area of responsibility, while not extensive, has provided some groundwork for further investigation. Formulation of theoretical notions, identification of important variables, and collection of data, have taken place. Research has supported the theoretical expectation that people attribute responsibility for outcomes. However, current theoretical formulations do not handle adequately attribution of responsibility to victims for unintended negative outcomes. This thesis attempted to specify two types of actions which may be implicated in negative outcomes, and to examine variables which should shift attribution from one mode to another. A review of the major directions in psychological research and theory in attribution of responsibility which have relevance for understanding unintended negative outcomes will be provided under the headings: Heider, de Charms, Walster, and Lerner.

Theoretical and Empirical Review

Heider. One of the more comprehensive psychological

theories of attribution of responsibility is found in Heider's (1958) analysis of naive psychology. In essence this theory attempts to account for attribution of responsibility in terms of perceptual and cognitive processes. His analysis may be summarized as follows. A person is held responsible for an effect when the person is perceived as having caused the effect (perception of causality) because the person and the effect belong together (unit formation). When a person is perceived as having caused an effect intentionally (personal causation) greater responsibility is attributed because the person and the effect are linked more intimately than when the person is perceived as having caused the effect unintentionally (impersonal causation). An effect can be attributed to a person, to environmental factors, or to both. The more environmental factors influence the effect the less the person is held responsible. Successive stages can be distinguished in which attribution to the person decreases, and attribution to the environment increases.

Thus for Heider (1958), attribution of responsibility arises out of the perception of causality. Why the observer should infer causality between the actions of a person and environmental effects is not fully explained. It is assumed that the dynamics are controlled by the stimulus field. De Charms (1968) has argued that the historical

antecedents of Heider's concept are the studies of Michotte (1963) which were published in French in 1946. Michotte investigated the conditions under which the movement of two simple squares would lead to the perception of causality. He found that the critical stimulus component was the temporal relationship between the two objects. Given certain temporal sequences between two stimuli, the perception of a causal relationship between the stimuli occurs in a convincing way for all subjects.

An important distinction in the perception of causality was used by Heider (1958). In naive psychology, causality can be either personal or impersonal. Personal causality, unlike impersonal causality, is characterized by an invariant end, or goal, and variable means to the goal (equifinality) which are due to a person who remains the persistent cause (local causality). The intention of the person in bringing about the effect through his actions is the central factor in personal causality. P tries to cause X, where X is his goal.

Heider hypothesized that responsibility is attributed to a person who is perceived as having caused an effect, because in some way the person and the effect belong together. This is the process of unit formation. Two things which go together tend to be united in thought. "Unit-forming factors particularly relevant to groupings involving

persons can be seen in the following: things that are made by a person, or that are his property belong to him. Changes that are attributed to a person as effects of his actions also belong to him in a certain sense." (Heider, 1958, p. 178) The more a person is perceived as the locus of causality for an effect, the closer the person and the effect will be linked. Therefore, a person will be assigned more responsibility for effects caused intentionally than those caused unintentionally.

An outcome is not always attributed to a person. It may be attributed to environmental factors, such as luck, task difficulty, etc. Generally, personal responsibility varies inversely with the relative contribution of the environment to the effect. The different ways in which responsibility is attributed may be considered as five successive levels in which attribution to the person decreases, and attribution to the environment increases.

1. At the most primitive level a person is held responsible for any effect with which he is connected.
2. At the next level a person is held responsible for any effect that he caused by his actions.
3. At the third level a person is held responsible for any effect of his actions that he might have foreseen.
4. At the next level a person is held responsible for any effect that he caused intentionally.
5. At the highest level a person is held

only partially responsible for effects that he caused intentionally. Responsibility is shared with the coercive environment which is viewed as a source of a person's intention, or motive.

The levels proposed by Heider are quite similar to Piaget's (1932) moral development sequence in which there is a precausal, objective, and subjective stage. Heider's classification maintains this series, but subdivides the objective stage into two levels. One is a level in which responsibility is ascribed only on the basis of the effects of a person's actions, and one is a level in which foreknowledge of the effects partly determines the attribution. Heider added a further level to Piaget's subjective stage in which the motives of a person may be partly assigned to a coercive environment.

Other theorists have proposed similar classification schemes. Kohlberg (1963), for instance, has suggested a classification for moral judgments that has three levels with two stages at each level. The three levels, premoral, conventional, and principled, are very similar to Piaget's developmental series. The difference lies in that Piaget saw morality primarily in terms of cognitive orientations, while Kohlberg considered moral development as a trend from external sources of motivation to internal, with each stage representing an increasing degree of internalization of

motivation (Percival, 1968).

An experiment by Shaw and Sulzer (1964) confirmed the expectation that a potent determinant of attribution of responsibility is relative environmental contribution to the effect as outlined in Heider's levels. The notion that the levels represent a progression from undifferentiated to highly differentiated attribution was supported by the fact that young children showed more attribution of responsibility at the lower levels, and less at the higher levels than adults. However, the expectation that adults would assign less responsibility at level five found little support from the data. One possible interpretation of this fact is that the college-student subjects in the experiment had not reached the sophistication of level five.

De Charms. De Charms (1968) has outlined a theory of personal causation in which a distinction is made between personal and impersonal causation, but unlike Heider, he reasoned that man strives for personal causation. Man desires to be the primary locus of causation for his behavior, and to be effective in producing changes in the environment. Personal causation is conceptualized as an overarching motivational propensity which finds expression in motives for more specific goals.

De Charms theorized that whether a person's behavior

and fate is determined by personal or impersonal causation will determine how the person is perceived by himself and others. People perceive themselves and others as being, more or less, like Origins and Pawns. An Origin is a person whose behavior is determined by his own choosing, and who feels that the locus for causation of effects in his environment lies within himself. When a man perceives himself as an Origin his behavior and its results will be cherished. A Pawn is a person whose behavior is determined by external forces beyond his control, and who feels powerless and ineffective. When a man perceives himself as a Pawn his behavior and its effects will be devalued.

De Charms' theory implies that a person will strive to be responsible. If a person is responsible when he causes his effects intentionally (Heider, 1958), then the notion that a person strives to cause his effects implies that a person strives to be responsible. When a person can assign responsibility to himself he will regard himself as an Origin; when he cannot ascribe responsibility to himself he will perceive himself as a Pawn.

Walster. Walster (1966) formulated a notion that a person will tend to hold other persons responsible for the effects of their actions. However, unlike de Charms' theory, there is no implication of a motivational propensity to be

responsible, or to hold others responsible. She reasoned that it is reassuring to believe that outcomes are largely the results of predictable, controllable human actions. If responsibility for an unpleasant outcome is attributed to someone, a person should feel somewhat more able to avert a similar fate. This notion was tested by examining the effects of negative outcome intensity on the attribution of responsibility. Walster hypothesized that as the severity of a misfortune increases it becomes more unpleasant to acknowledge that this kind of consequence could happen to anyone. Therefore, attribution of responsibility to a person should increase as a function of the severity of the consequences. The results of the experiment supported this expectation. The data also indicated that the standards by which a person judged behavior were harsher when the consequences were serious than when the effects were mild, but no change occurred in the perceived carelessness of the victim.

The finding that attribution of responsibility increases with the severity of the consequences of an outcome is consistent with an earlier observation of Shaw and Sulzer (1964). A qualitative examination of the data in their experiment suggested that very good, or very bad effects, resulted in greater attribution of responsibility.

Lerner. Lerner and his colleagues (Lerner, 1965; Lerner and Simmons, 1966; Lerner and Matthews, 1967) advanced a notion similar to Walster's (1966). Lerner proposed that people believe in a world where wanted things can be obtained through appropriate actions, and threatening events can be avoided. Belief in a world where no fit existed between actions and outcomes is too threatening for most people. This hypothesis of belief in a just world is an expansion of Festinger's notion (1957) that it is functional and less dissonance arousing to believe that actions will lead to desirable outcomes.

In its most general form the just world cognition is a belief that people get what they deserve. There are, however, two senses in which people are considered to be deserving. One is on the basis of their actions, the other is on the basis of their personal desirability. The belief in a just world has two corresponding forms of expression. There is an appropriate fit between actions and outcomes, or there is an appropriate fit between personal characteristics and outcomes. The preference is to believe in the effectiveness of appropriate actions rather than personal characteristics because behavior is easier to control and change than intrinsic worth. The cognition that outcomes are the result of personal characteristics is engaged by an observer if a victim is seen in a situation in which his

fate was not merited by his actions.

In the first of two experiments (Lerner and Simmons, 1966) the notion of belief in a just world was expressed in a hypothesis that a victim who agrees to suffer for the sake of others will be judged less attractive than a victim whose suffering is ended. The data strongly supported this hypothesis. The "martyr" was in fact judged to be the least attractive of victims in several conditions. Although this finding suggests that rejection was the greatest because the "martyr" deserved to suffer least, its relation to the just world theory is somewhat ambiguous. A comparison should have been made between a victim whose fate was caused by his actions, and a victim whose fate was independent of his actions.

In the second experiment (Lerner and Matthews, 1967) a more direct test of the just world theory was undertaken. The perception of responsibility for a highly unpleasant outcome was elicited in an indirect manner. Responsibility for the suffering of a victim, a confederate, was attributed either to the victim, the critical subject, or chance. Consistent with the notion of belief in a just world, it was found that subjects did not devalue a victim when the suffering could be attributed to the victim's actions. When a person is perceived as responsible for his negative outcomes there is apparently no

threat to belief in a just world.

Summary of Theoretical and Empirical Review

Heider (1958) theorized that in naive psychology a person is held responsible for effects which he is perceived to have caused. Different developmental levels can be distinguished in which attribution of responsibility progresses from primitive undifferentiated attribution to highly differentiated attribution of responsibility. When responsibility is attributed at the higher levels, the more a person is perceived to have caused an effect intentionally the more he will be held responsible for the effect. Heider's theoretical notions were generally supported by the data from an experiment by Shaw and Sulzer (1964).

De Charms (1968) advanced a theory of personal causation in which man's desire to be the cause of his behavior and fate is a basic motivational propensity. A direct implication of this theory is that a person will strive to be responsible.

Walster (1966) and Lerner (1965; Lerner and Simmons, 1966; Lerner and Matthews, 1967) reasoned that a person attributes responsibility to others as a means of reducing anxiety about future events. Consistent with this reasoning, Walster (1966) found that the amount of responsibility attributed to a victim varied as a function of the severity

of the outcome. The notion that attribution of responsibility is a means of reducing anxiety was elaborated by Lerner into a more comprehensive theory. He theorized that people desire to believe in a just world and will attempt to maintain the cognition that a person gets what he deserves. Using this notion of belief in a just world predictions were made about when an observer will reject a victim (Lerner and Simmons, 1966; Lerner and Matthews, 1967). The data from these experiments supported the predictions.

Theoretical Extensions

In order to predict how, or if, responsibility will be ascribed to a victim it is necessary to specify what factors will be regarded as having caused his outcome. None of the current theories provide an adequate specification of the victim's actions which may be implicated when responsibility is attributed to him for his unintended negative outcome. Heider's (1958) analysis of actions in terms of intentionality, in its present form, is largely irrelevant for a person's negative outcome effected by his actions. Generally, a person does not intentionally effect a negative outcome for himself. Nevertheless, considerable responsibility for the effect may be attributed to the person. Walster (1966) investigated if the

amount of responsibility, the standards of how careful one should be, and the perceived carelessness of the victim, varied under different conditions of negative outcome intensity. However, this study still leaves unanswered which actions were implicated for the outcome, and if it were the same actions when the consequences were more severe. Lerner (Lerner and Simmons, 1966) theorized that both what a person does, and what a person is, may be regarded as causative factors. If attribution to actions is blocked, attribution to personal characteristics may take place. However, a failure to identify which actions may be regarded as causative leaves open the question if in fact attribution to the victim's actions were blocked.

In terms of the naive psychology involved in attribution of responsibility to a victim for his negative outcome, people can identify two kinds of actions. One is actions which effect positive outcomes but also engage the risk of negative outcomes (Positive Outcome Risk Engaging actions, or PORE actions). The other is actions, either of omission or commission, which increase the risk of negative outcomes (Negative Outcome Risk Increasing action, or NORI actions). One of the distinguishing characteristics of PORE and NORI actions is that when a positive outcome is being effected, the risk engaged by PORE actions is unavoidable, while the risk caused by NORI actions can

be reduced. The importance of a distinction between PORE and NORI action in the attribution of responsibility is that each may represent the basis for a different mode of attribution for negative outcomes. Generally, attribution of responsibility to PORE and NORI actions should depend on the relative contribution of each to the total risk of a negative outcome.¹

The actions of the victim in Walster's study (1966) may be considered as an example of how this proposed distinction between actions might operate. Consider that a person parks his car on a hill and it rolls down and smashes into a pole. The positive outcome is the car parked in a certain location, and the negative outcome is the private and public property damage. The effecting of the positive outcome engages a risk of the negative outcome (PORE actions). i.e. parking on a hill engages an unavoidable risk that the car will roll down the hill and be damaged. Other actions may be performed, or omitted, which increase the risk of the negative outcome (NORI actions), such as not fully engaging the hand-brake, turning the wheels away from the curb, etc. Responsibility for the property damage

¹ In this thesis reference is made to responsibility being attributed to actions. A more precise description is that responsibility is attributed to a person because of his actions. The current usage is adopted only for the sake of brevity and convenience.

may be attributed to PORE actions and to NORI actions according to the proportion each contribute to the total risk of the negative outcome.

The degree to which the risk of a negative outcome is due to personal causation may affect attribution of responsibility. The variables in Heider's levels have relevance for unintended negative outcomes when the focus is changed to risk. Attribution of responsibility for an unintended negative outcome may be assigned to a person if the risk of the negative outcome were present (level 2), if it could have been foreseen (level 3), if it were intentionally engaged, or caused, (level 4), but responsibility may be decreased if there were coercion to accept the risk (level 5). Responsibility attributed to either PORE or NORI actions should vary as a function of the degree to which the risk is intentionally engaged, or caused, provided that the attributer differentiates between personal and impersonal causation.

Another factor which may influence attribution of responsibility for a negative outcome is the utility of effecting the positive outcome. Walster (1966) found that attribution of responsibility increases as a function of the severity of a negative outcome. This finding, in terms of the presently proposed concept may mean that attribution of responsibility for a negative outcome varies inversely

as a function of the utility of effecting a positive outcome. The utility is determined by the gain afforded by the positive outcome, minus the loss inflicted by the negative outcome. In Walster's study, the value of the positive outcome was held constant, and changes in the utility were caused only by variations in the severity of the negative outcome. According to the present reasoning, if a negative outcome were held constant, and the positive outcome were varied, attribution of responsibility would vary inversely as a function of the positive outcome. It is hypothesized that attribution of responsibility varies inversely as a function of the utility of effecting a positive outcome.

When a person is effecting a positive outcome, and a negative outcome occurs, attribution of responsibility to PORE actions should influence the future, or expected, utility of effecting that positive outcome more than attribution to NORI actions. The expected utility is determined by the value resulting from the gain afforded by the positive outcome and the probability of that outcome, minus the value resulting from the loss inflicted by a negative outcome and the probability of that outcome, i.e. $(p)\text{gain} - (p)\text{loss}$. In estimating the expected loss entailed by a negative outcome, the risk of the loss engaged by PORE actions must be taken into consideration because it is

unavoidable. The risk attributed to NORI actions largely may be ignored because a person is capable of reducing the risk caused by NORI actions.

The proposition that a person prefers to believe in a world where wanted things can be obtained and threatening events avoided, can be expressed in terms of the present concepts. A person prefers to believe that the utility of most positive outcomes is relatively high, and the risk of most negative outcomes can be reduced. Consequently when a person has engaged in effecting a positive outcome, and a negative outcome occurs, there should be a preference to ascribe responsibility to NORI actions. Attribution to NORI actions, unlike attribution to PORE actions, does not affect greatly the expected utility of the positive outcome, or change the cognition that the risk of the negative outcome can be reduced while effecting the positive outcome.

If responsibility cannot be assigned to NORI actions, an attempt will be made to attribute it to PORE actions. When responsibility is attributed to PORE actions it is still possible to believe that control over the risk of negative outcomes can be exercised by not effecting positive outcome under similar circumstances.

The attribution of responsibility to PORE actions is viewed as a mode of attribution which operates mainly

when responsibility cannot be attributed adequately to NORI actions. The attribution of more responsibility to PORE actions than to NORI actions to account for a severe negative outcome may threaten the belief that the risk of negative outcomes can be reduced when effecting a positive outcome, and result in a cognition that the risk of negative outcomes can be reduced only by not effecting positive outcomes. Such a change in cognitions may produce a generalized tendency to make PORE actions more salient, and NORI actions less salient, in the attribution of responsibility.

The Present Study

In order to predict how, or if, responsibility for a negative outcome will be attributed, it is necessary to specify which kinds of actions may be regarded as causing negative outcomes. None of the present theories provide an adequate analysis of the actions which may be implicated as causative factors in the occurrence of negative outcomes for a victim.

In the present work it was hypothesized that in naive psychology responsibility for unintended negative outcomes can be attributed to two kinds of actions of the victim. Responsibility may be attributed to actions which effect a positive outcome and engage the risk of negative

outcomes (PORE actions). Or, responsibility may be attributed to actions which increase the risk of negative outcomes (NORI actions). It was reasoned that there is a preference to attribute responsibility to NORI actions. Attribution to NORI actions, unlike attribution to PORE actions, should not decrease the utility of effecting positive outcomes, or change the cognition that the risk of negative outcomes can be reduced when effecting positive outcomes. It was assumed that there is a tendency to maintain a belief that the utility of effecting most positive outcomes is relatively high, and the risk of negative outcomes can be reduced. If responsibility cannot be assigned adequately to NORI actions an attempt will be made to attribute it to PORE actions because attribution to this mode still enables the attributer to believe that some control over negative outcomes can be exercised.

When responsibility cannot be attributed to NORI actions, one variable which may increase attribution to PORE actions is the degree to which the risk engaged by PORE actions is intentionally accepted. It is hypothesized that attribution of responsibility varies with the degree to which the risk engaged by PORE actions is intentionally engaged. If a person chooses to perform the PORE actions knowing the risk engaged by these actions, responsibility is more attributable to his PORE actions than if he has no choice in performing the PORE actions.

Another variable which may increase attribution of responsibility to PORE actions, when responsibility cannot be attributed to NORI actions, is the estimated utility of effecting the positive outcome. The need to attribute responsibility for a negative outcome is greater if the utility of the positive outcome is low than if the utility is high. It is assumed that attribution of responsibility varies inversely as a function of the utility of effecting the positive outcome. Therefore, if the severity of the negative outcome is held constant, a decrease in the gain of a positive outcome should result in more responsibility being assigned to a person for a negative outcome.

These two variables should produce considerable attribution of responsibility when the utility of effecting the positive outcome is low, and the degree of intentionality in effecting the positive outcome is high. If the utility, or more specifically the gain afforded by the positive outcome (reward), is low there should be a strong need to attribute responsibility for the negative outcome. If the degree of intentionality, or more concretely the degree of choice, is high responsibility should be readily attributed to a person's actions.

When responsibility cannot be attributed to NORI actions, attribution to PORE actions for a negative outcome should be considerably greater when choice is high

and reward is low than when choice and reward are both high, or both low, or when choice is low and reward is high. When choice is low attribution to PORE actions should be largely blocked, and therefore a variation in the need to attribute responsibility caused by high or low reward should have little effect on the amount of responsibility assigned to PORE actions. When reward is high there should be little need to attribute responsibility for the negative outcome, and therefore the degree of choice should not influence greatly attribution to PORE actions. Therefore, considerable attribution to PORE actions should occur only when choice is high and reward is low.

These notions were tested by creating a situation in which a person found that a positive outcome was conditional on the receipt of a negative outcome, i.e. there were no NORI actions. In this situation the utility was varied by either offering or withholding financial compensation. Intentionality was varied by either the presence, or absence, of choice to participate in the situation.

More specifically, a person expected that he would receive random electric shocks which were independent of his performance. Either he had choice to participate, or no choice to participate in the experiment. He expected to receive either financial compensation, or no financial

compensation, for the shocks. Following these manipulations, a test was administered to measure the subject's attribution of responsibility to the NORI and PORE actions of other victims involved in unpleasant consequences.

It was expected that a decrease in the salience of NORI actions, and an increase in the salience of PORE actions in attribution of responsibility to others is considerably greater when a person had choice and no reward than under other conditions. The greater change in salience was expected to take place as a result of an increase in attribution to PORE actions by a person to account for his own negative outcome. Attribution to PORE actions, when there are no NORI actions, should be considerably greater when a person had choice and no reward than under any other conditions.

METHOD

Subjects

The subjects were 42 female students selected from the Introductory Psychology course at the University of Alberta. Subjects were required to participate in psychological experiments as a part of their course requirements. The sign-up booklet for this experiment was placed with those for other psychological studies at a designated location on the campus. One subject, in the No Choice-Reward condition, refused to participate when she was informed that electric shock would be administered. One subject was excluded because she was suspicious of the procedures. This left 40 experimental subjects.

Design

The design of the experiment was a 2 X 2 factorial analysis of variance with 10 subjects between each of two levels of Choice and two levels of Reward. All subjects expected to receive a negative outcome (electric shocks) as a part of an experiment.

The Choice variable was presented at two levels, Choice and No Choice. The manipulations at the Choice level were designed to increase the perception of the subject that she had freely chosen to participate in the experiment. No attempt was made at the No Choice level to

coerce subjects, but no opportunity to choose to participate was given.

Reward was also varied at two levels, Reward and No Reward. The manipulations attempted to create the perception that the experience of receiving electric shock would be either compensated adequately, or compensated inadequately because financial reward was either offered (Reward), or withheld (No Reward). All subjects were told that persons in the experiment had been compensated for the receipt of shocks. Therefore, any increase in the expected severity of the shocks which may have been induced by the information that compensation was offered should have been equal for both levels of Reward.

Materials

Attribution of responsibility to NORI and PORE actions was measured by responses on a paper and pencil test (see Appendix A). The test was designed to measure on two scales, with 11 points each, the degree to which 10 negative outcomes were attributed to NORI actions, and PORE actions.

Each of the 10 items had a victim who participated in an activity which was likely to be risky (PORE actions), and who performed, or omitted, some actions which increased the risk of the negative outcome (NORI actions). The items

were set up like excerpts from a newspaper. For example:

DISABLED AFTER TRYING DRUG FOR CHEMIST

... he tried a drug for which the physical effects were not well known and he did not try the antidote or seek help when ill-effects began to appear ...

The task of the subjects was to assign responsibility to the victim for the outcome on an 11 point scale because, "he tried a drug for which the physical effects were not well known" (PORE actions), and to assign responsibility on an 11 point scale because, "he did not try the antidote or seek help when ill-effects began to appear" (NORI actions).

Procedure

Subjects were taken individually into a room in which equipment for the administration of electric shock was present. Subjects sat at a table facing the equipment, which was located on a separate table about six feet away. The experimenter sat at the table containing the equipment.

The experiment was represented to all subjects as a study of the effects of stress on the social judgment process. Stress was induced presumably by the administration of random electric shocks. Subjects were informed that the level of shock would be "45 volts and low amperage" which would do no real physical harm but, "would be

unpleasant and provide momentary discomfort". All subjects were told that two groups were being employed in the study, a stressed group and a non-stressed group, and that they had been selected randomly for the stressed group.

The instructions varied for the different levels of Choice and Reward in the following ways (see Appendix C for the complete instructions):

Reward level: Subjects were told that all subjects in the stressed group would be paid \$2.50.

No Reward level: Subjects were informed that all persons in the stressed group had been paid \$2.50, but they could not be paid because the research grant had just been exhausted.

Choice level: After the subjects had been informed that they were to receive compensation, or no compensation, they were given an opportunity to agree to participate in the following manner. "It is essential for the experiment that all subjects agree to take part. So far no one has refused, which, I think, says a lot for the student-body of this University. Would you be co-operative and take part?" Subjects were then required to sign a consent form. "The nature of experiment NO. 37 has been explained to me. I understand that while there is no danger of real physical harm, the experience will be unpleasant and provide momen-

tary discomfort. I have of my own free will agreed to participate."

No Choice level: The manipulations at the Choice level were omitted in the instructions to the subjects.

Following these instructions, subjects were given the test to measure attribution of responsibility to PORE and NORI actions (Appendix A). The test was represented as a measure of the way subjects made judgments under normal conditions. The subjects were told that the test to be given under stress would be quite similar to the present one.

After the test was completed, subjects were asked to fill out a form for the Department of Psychology (Appendix B). This form was intended to check the experimental manipulations, and contained a rating of whether or not the compensation in the experiment was sufficient to offset the expected electric shock.

The subjects were then questioned about their reactions to shock in order to detect suspiciousness about the experiment. Finally, subjects were fully debriefed, and were required to promise that they would not discuss the experiment with others. The debriefing included a full explanation of the purpose of the experiment, and the reasons for the use of threat of shock.

RESULTS

The design of the experiment was a 2 X 2 factorial analysis of variance with two levels of Choice (Choice and No Choice), and two levels of Reward (Reward and No Reward). The dependent variable was the difference between attribution of responsibility to NORI actions and attribution of responsibility to PORE actions as measured by the test (Appendix A).

The expectation that the difference scores would be lower in the Choice-No Reward condition was supported by the two-way interaction, Choice X Reward ($F = 5.66$, $df = 1/36$, $p < .05$). Also contributing to that interaction was the difference scores for the No Choice-Reward condition. The lower scores in this condition were not anticipated. No other results in the analysis of variance were significant.

The means of the attribution of responsibility difference scores are presented in Table 1. A summary of the results of the analysis of variance is presented in Table 2.

The differences between the attribution of responsibility difference score means were tested by Duncan's New Multiple Range Test. (Edwards, 1960) The results are summarized in Table 1. The only differences to reach significance were the difference between the No Choice-

TABLE 1

Attribution of Responsibility Difference Scores Means

	No Reward	Reward	Sum
No Choice	19.6 ^a *	6 ^b	25.6
Choice	15.2 ^{ab}	24.1 ^a	39.3
Sum	34.8	30.1	64.9

Lower scores indicate more attribution to PORE actions.

* All means identified by the same superscript are not significantly different, all means not identified by the same superscript are significantly different ($p < .01$).

TABLE 2

Summary of Analysis of Variance of Attribution of Responsibility Difference Scores

Source	df	SS	MS	F
Reward	1	27.61	27.61	.25
Choice	1	234.61	234.61	2.09
Reward X Choice	1	632.81	632.81	5.66*
Error	36	4025.45	111.82	

* $p < .05$

Reward mean and Choice-Reward mean, and the difference between the No Choice-Reward mean and the No Choice-No Reward mean ($p < .01$).

The effectiveness of the Reward manipulation was checked by having subjects rate if the compensation in the experiment was sufficient to offset the expected electric shocks. The means are presented in Table 3. An analysis of variance was performed on the data, and the results are summarized in Table 4. The compensation, as expected, was rated as more adequate in the reward conditions than in the No Reward conditions ($p < .01$).¹

The test designed to measure attribution of responsibility to other victims was found to be fairly reliable. A split-half method of determining reliability (Guttman, 1945) yielded a correlation of .802 for the difference scores.

1. In the planning stages of this experiment it was considered that the levels of Reward might influence the perception of the fairness of the experiment. It was reasoned that the perceived fairness would be lower in the No Reward than in the Reward conditions. In the evaluation of the experiment (Appendix B) subjects were asked to rate the fairness of the experiment. An analysis of variance was performed on the data which indicated that there were no significant differences. Later, it was decided that the assumption of a change in the perceived fairness was ambiguously related to the theoretical notions advanced to account for a shift in modes of attribution.

TABLE 3

Sufficiency of Compensation Scores Means

	No Reward	Reward	Sum
No Choice	4.3	5.2	9.5
Choice	3.4	5.2	8.6
Sum	7.7	10.4	18.1

TABLE 4

Summary of Analysis of Variance of Sufficiency of Compensation Scores

Source	df	SS	MS	F
Reward	1	18.23	18.23	8.02**
Choice	1	2.03	2.03	.89
Reward X Choice	1	2.03	2.03	.89
Error	36	81.70	2.27	

** $p < .01$

DISCUSSION

The results of this experiment gave some support to the expectation that the salience of PORE actions would increase, and the salience of NORI actions would decrease, in attribution to others when a person had Choice and No Reward. Apparently the degree of choice in accepting the risk of a negative outcome, and the expected utility of a positive outcome, influence attribution of responsibility to others when the degree of choice is high, and the value of reward is low.

However, the results also indicated that a change in salience occurred when a person had No Choice and Reward. The basis of the expected change in salience was that attribution to PORE actions by a person to account for his own negative outcome would generalize to others. Therefore, one possible interpretation of the unexpected results is that when a person had No Choice and Reward he attributed his negative outcome to PORE actions, and this mode of attribution generalized to the fate of others. If this interpretation of the unexpected results is made, then the hypothesized relationship between attribution of responsibility and the variables Choice and Reward apparently is incorrect. However, the change in salience may have been caused by an event other than attribution of responsibility to PORE actions by a person to account for

his own negative outcome.

One other interpretation of the change in salience when a person had No Choice and Reward is that Reward under conditions of No Choice undermined a person's cognition that he is the originator of his own fate. The change in a person's sense of being the cause of his outcomes was reflected in a shift in the relative salience of PORE and NORI actions. This possibility is a reasonable one if the preferred form of belief in a just world is that a person effects his own rewards, and not merely that he is compensated, or rewarded, by someone else. The belief expressed in these terms is consistent with de Charms' (1968) theory that a person strives for personal causation. In line with de Charms' reasoning, an Origin should feel that the relationship between a person and his outcomes is that a person effects the utility of his own outcomes. He causes his positive outcomes, and increases, or decreases, the probability of his negative outcomes by his own actions. Attribution of responsibility to NORI actions is more consistent with such a point of view than is attribution to PORE actions. The cognitions of a Pawn should be that a person is impotent to effect the utility of his own outcomes. He does not cause his positive outcomes, or greatly change the probability of negative outcomes. Attribution to PORE actions is more

consistent with the cognitions of a Pawn than is attribution to NORI actions.

A person's sense of being an Origin may be reduced more when he is rewarded and punished than when he is only punished. When the environment can reward and punish at will it has more power, and the person has less power, than when the environment can only punish. Thus, the expectation of Reward in addition to punishment (shocks), under conditions of No Choice, may have changed a person's perception of himself from being an Origin to being a Pawn. Such a shift may have been reflected in the decrease in salience of NORI actions, and the increase in salience of PORE actions in the attribution of responsibility to others for negative outcomes.

A more direct way of expressing this notion is that giving no choice to a person about receiving a compensated negative outcome makes him feel relatively powerless to control the contingencies which might arise if he engaged in risky activities. The change in salience when a person had No Choice and Reward may have been a reflection of the feeling that it is fairly risky to effect positive outcomes because a person does not have the power to reduce the risk of negative outcomes.

In summary, the results of this experiment gave some support to the notion that it is useful to distinguish two

types of actions in the attribution of responsibility for negative outcomes. Some support was found for the expectation that the salience of NORI actions would decrease and the salience of PORE actions would increase when a person had no actions to reduce the risk of an uncompensated negative outcome (No Reward), but had choice to accept the risk (Choice). An unexpected effect of Choice and Reward was indicated by the data. Apparently the salience of PORE actions increased, and the salience of NORI actions decreased when a person had No Choice and Reward. A possible explanation of this unexpected result is that when a person had no choice in accepting a compensated negative outcome his belief that he effects his own rewards and punishments may have been undermined. He may have felt impotent to cause his positive outcomes, or lower the probability of negative outcomes, through his own actions. This feeling or powerlessness to reduce the risk of negative outcomes may have been reflected in the shift of the relative salience of PORE and NORI actions.

A shift in attribution of responsibility from NORI actions to PORE actions to account for a victim's fate may have important behavioral consequences. One possible consequence is that the attributer will be less willing to effect a positive outcome. If the risk of a negative

outcome cannot be reduced, the utility of effecting the positive outcome which engaged the risk may be lowered greatly. Another possible consequence of a shift to PORE actions, which is related to the first, is that the attributer may reject the victim. This may occur for two reasons. If the utility of a positive outcome is lowered, the victim may be regarded as a person who has a warped sense of values which caused him to over value the positive outcome, and thereby accept too high a risk to obtain it. Or, rejection of the victim could represent a strategy to resist lowering the utility of the positive outcome. If the victim is perceived as dissimilar to most people, his inability to reduce the risk of a negative outcome may be considered as not applicable generally. A possible illustration of rejection of the victim as the result of attribution to PORE actions is the "martyr" in the Lerner and Simmons study (1966). The victim had no actions to reduce the risk of a severe negative outcome, but had chosen to accept the risk. Therefore, responsibility, according to the present reasoning, should have been attributed to PORE actions. The "martyr" may have been devalued because she over valued the positive outcome (the approval of the experimenter, the satisfaction of meeting the needs of others, etc.) which caused her to accept the risk of the severe negative outcome.

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APPENDIX A

RESPONSIBILITY TEST

On the following pages are ten items which are like excerpts from a newspaper. Following the item, the excerpt has been divided into two separate factual statements. Under each statement is a scale.

Your task is to estimate the amount of responsibility the person has for what happened to him from each of the two facts.

EXAMPLE

JUMPED FROM 20TH STORY WINDOW

... he brooded too much about his personal problems, and he allowed himself to be caught in an unfortunate web of circumstances ...

Responsibility he has for the outcome because:

A: he brooded too much about his personal problems

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he allowed himself to be caught in an unfortunate web of circumstances

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

In the example you would decide to what degree the person was responsible for jumping because he brooded too much about his personal problems, and indicate your decision of the scale below "A". You would decide to what degree the person was responsible for jumping because he allowed himself to be caught in an unfortunate web of circumstances, and indicate your answer on the scale below "B".

Your estimates are to be recorded by placing an "X" somewhere between NO Responsibility and Complete Responsibility. The closer the "X" is to Complete Responsibility, the more responsibility is being assigned to the person because he performed the actions described in the statement.

Read each item carefully, but do not spend too much time on any one item. Take special care to note on which ends of the scale the words Complete Responsibility and No Responsibility are located as they will vary from item to item. For example:

Complete
Responsibility:__:__:__:__:__:__:__:X:__:__:Responsibility No

No
Responsibility:__:__:X:__:__:__:__:__:__:__:Complete
Responsibility

Both of these scales indicate that the same amount of responsibility is being assigned.

Are there any questions about the use of the scale?

ANSWER ALL ITEMS

1. FAILED FIRST YEAR UNIVERSITY

... he went to University although
a psychologist advised him that he
would be unable to handle the work,
and he never bothered to study for
more than 20 minutes a day ...

Responsibility he has for the outcome because:

A: he went to University although a psychologist advised
him that he would be unable to handle the work.

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he never bothered to study for more than 20 minutes a
day

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

2. DROWNED WHILE ATTEMPTING RESCUE

... he attempted to save a person
he knew was too strong and too far out,
and he jumped in quickly without taking
the available life-preserver ...

Responsibility he has for the outcome because:

A: he attempted to save a person he knew was too strong
and too far out

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he jumped in quickly without taking the available
life-preserver

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

3. KILLED A WOMAN

... he drove considerably
above the speed limit, and
he started out on the drive
although he thought the brake
pedal felt too soft ...

Responsibility he has for the outcome because:

A: he drove considerably above the speed limit

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because

B: he started out on the drive although he thought the
brake pedal felt too soft

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

4. LOST SIGHT WHILE WELDING FRIEND'S TRAILER

... he welded with the only available
equipment which was very old, and he failed
to check the settings of the dials ...

Responsibility he has for the outcome because:

A: he welded with the only available equipment which was
very old

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he failed to check the settings of the dials

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

5. WALLET WAS STOLEN BY A PICKPOCKET

... he left his wallet exposed in his hip-pocket, and he went to a place where pickpockets were known to be active ...

Responsibility he has for the outcome because:

A: he left his wallet exposed in his hip-pocket

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he went to a place where pickpockets were known to be active

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

6. SUED WHEN DOG BIT THE POSTMAN

... he did not keep the dog in the house or on a leash, and he owned a dog that was very vicious toward postmen ...

Responsibility he has for the outcome because:

A: he did not keep the dog in the house or on a leash

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he owned a dog that was very vicious toward postmen

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:__:Responsibility

7. LOST FINGER IN ESCALATOR

... he rode on an escalator that was marked, "repairs, ride at your own risk" and he attempted to pick up a penny that was wedged in the step ...

Responsibility he has for the outcome because:

A: he rode on an escalator that was marked, "repairs, ride at your own risk"

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he attempted to pick up a penny that was wedged in the step

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

8. DISMISSED FROM JOB

... he did not try to improve his occupational skills, and he chose to work for a company that was known to have seasonal slow-downs ...

Responsibility he has for the outcome because:

A: he did not try to improve his occupational skills

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he chose to work for a company that was known to have seasonal slowdowns

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

9. DISABLED AFTER TRYING DRUG FOR CHEMIST

... he tried a drug for which the physical effects were not well known, and he did not try the antidote or seek help when ill-effects began to appear ...

Responsibility he has for the outcome because:

A: he tried a drug for which the physical effects were not well known

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he did not try the antidote or seek help when ill-effects began to appear

No Complete
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

10. ELECTROCUTED WHILE REPAIRING HIS TV SET

... he opened the set on which was printed, "voltage remains after set is unplugged", and he did not bother to ground the voltage leads or use insulated tools ...

Responsibility he has for the outcome because:

A: he opened the set on which was printed, "Voltage remains after set is unplugged"

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

Responsibility he has for the outcome because:

B: he did not bother to ground the voltage leads or use insulated tools

Complete No
Responsibility:__:__:__:__:__:__:__:__:__:__:Responsibility

APPENDIX B
EVALUATION FORM

EVALUATION OF EXPERIMENT NUMBER 37 FOR THE DEPARTMENT OF
PSYCHOLOGY

Do not show your evaluation to the experimenter.
Do not sign this form or identify yourself in any way.
When you have completed your evaluation, place it in an
envelope, seal it, and deposit it in the box provided.

Please evaluate the experiment:

Interesting: __:__:__:__:__:__:__:Uninteresting

Just :__:__:__:__:__:__:Unjust

Sensible :__:__:__:__:__:__:Senseless

Threatening: __:__:__:__:__:__:Unthreatening

Fair :__:__:__:__:__:__:Unfair

Cruel :__:__:__:__:__:__:Kind

Good :__:__:__:__:__:__:Bad

Is the compensation (Usefulness of experimental
information, learning, money, etc.) sufficient to offset
the fact that you are to receive shock?

Extremely Adequate: __:__:__:__:__:__:Extremely Inadequate

What information did you have about this experiment
before you took part in it?

Additional Comments:

Please evaluate the experimenter:

Competent :__:__:__:__:__:__:__:Incompetent

Discourteous :__:__:__:__:__:__:Courteous

Warm :__:__:__:__:__:__:Cold

Efficient :__:__:__:__:__:__:Inefficient

APPENDIX C

INSTRUCTIONS

For all Subjects: "Let me tell you about this experiment. It is designed to explore the way people make social judgments under stress. As you know many of the social judgments that we must make are not performed under calm relaxing conditions, but under stressful circumstances. Specifically in this experiment we are studying the effects of periodic shock on the social judgment process. Subjects receive shock periodically, independent of what they have done, are doing, or will do. The shocks, then, are given not because the subject in anyway deserves them, but they are introduced to create a stressful condition, so that we can study the effects of stress on social judgment. The electric shock is of 45 volts and low amperage. It will certainly do no real physical harm, but it will be unpleasant and provide momentary discomfort."

Additional Instructions for Subjects in Reward
and Choice Condition:

"Since electric shock is being used subjects will be compensated by being paid \$2.50 for the experiment, which is the standard rate of compensation for experiments involving stress or unpleasantness."

"Now subjects in this experiment are placed in one of two groups, a stressed group, and a non-stressed group. Subjects were assigned to one, or the other, group on the basis of chance, that is by drawing names out of a container. On this basis you were assigned to the stress group, and you will receive periodic electric shock during your performance of making social judgment, and, of course, you will be paid the \$2.50 for the experiment as compensation for the unpleasantness."

"It is essential for the experiment that all subjects agree to take part. So far, no one has refused, which, I think, says a lot for the student-body of this University. Would you be co-operative and take part? Thank you, I appreciate you choosing to take part."

"Since this experiment involves an unpleasant experience the Department has insisted that the nature of the experiment be explained to subjects, and that they indicate their consent by signing this form."

(see Appendix D)

"Before we begin the experiment proper you will be given this test (Appendix A) without stress, so that we have a pre-measure of the way you make social judgments under normal circumstances. The test that you will be given later is very similar to this one."

Additional Instructions for Subjects in Reward and
No Choice Condition:

"Since electric shock is being used subjects will be compensated by being paid \$2.50 for the experiment, which is the standard rate of compensation for experiments involving stress or unpleasantness."

"Now, subjects in this experiment are placed in one of two groups, a stressed group, and a non-stressed group. Subjects were assigned to one, or the other, group on the basis of chance, that is by drawing names out of a container. On this basis you were assigned to the stress group, and you will receive periodic electric shock during your performance of making social judgments, and, of course, you will be paid the \$2.50 for the experiment as compensation for the unpleasantness.

"Before we begin the experiment proper you will be given this test (Appendix A) without stress, so that we have a pre-measure of the way you make social judgments under normal circumstances. The test that you will be given later is very similar to this one."

Additional Instructions for Subjects in No Reward
and Choice condition:

"Now, subjects in this experiment are placed in one of two groups, a stressed group, and a non-stressed group. Subjects were assigned to one, or the other, group on the basis of chance, that is by drawing names out of a container. On this basis you were assigned to the stress group, and you will receive periodic electric shock during your performance of making social judgments."

"It is considered fair to compensate with money subjects in an experiment who have to undergo stress, or endure an unpleasant experience. And, as a matter of fact, we have been paying all subjects \$2.50 as compensation in this experiment. However, we are not nearing the end of this experiment, and the funds from our research grant are exhausted. So I am afraid that you won't be able to be compensated. In fact you are the first subject who can't get what she deserves in the way of compensation. It may be unfair to you, but I can't help it."

"It is essential for the experiment that all subjects agree to take part. So far, no one has refused, which, I think, says a lot for the student-body of this University. Would you be co-operative and take part? Thank you, I appreciate you choosing to take part."

"Since this experiment involves an unpleasant

experience the Department has insisted that the nature of the experiment be explained to subjects, and that they indicate their consent by signing this form." (see Appendix D)

Before we begin the experiment proper you will be given this test (Appendix A) without stress, so that we have a pre-measure of the way you make social judgments under normal circumstances. The test that you will be given later is very similar to this one."

Additional Instructions for Subjects in No Reward and No Choice condition:

"Now, subjects in this experiment are placed in one of two groups, a stressed group, and a non-stressed group. Subjects were assigned to one, or the other, group on the basis of chance, that is by drawing names out of a container. On this basis you were assigned to the stress group, and you will receive periodic electric shock during your performance of making social judgments."

"It is considered fair to compensate with money subjects in an experiment who have to undergo stress, or endure an unpleasant experience. And, as a matter of fact, we have been paying all subjects \$2.50 as compensation in this experiment. However, we are now nearing the end of this experiment, and the funds from our research grant are exhausted. So I am afraid that you won't be able to be compensated. In fact you are the first subject who can't get what she deserves in the way of compensation. It may be unfair to you, but I can't help it."

Before we begin the experiment proper you will be given this test (Appendix A) without stress, so that we have a pre-measure of the way you make social judgments under normal circumstances. The test that you will be given later is very similar to this one."

APPENDIX D
CONSENT FORM

THE DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF ALBERTA

The nature of Experiment No. 37 has been explained to me. I understand that while there is no danger of real physical harm, the experience will be unpleasant, and involve momentary discomfort. I have of my own free will agreed to participate.

APPENDIX E

ATTRIBUTION OF RESPONSIBILITY DIFFERENCE SCORES

No Reward - No Choice

<u>Ss</u>	
1	23
2	29
3	12
4	28
5	10
6	34
7	17
8	2
9	9
10	32

Mean = 19.6

S = 11.11

Reward - Choice

<u>Ss</u>	
1	0
2	65
3	12
4	54
5	19
6	26
7	0
8	19
9	34
10	12

Mean = 24.1

S = 20.15

No Reward - Choice

<u>Ss</u>	
1	20
2	-7
3	29
4	17
5	23
6	27
7	-9
8	25
9	11
10	16

Mean = 15.2

S = 13.38

Reward - No Choice

<u>Ss</u>	
1	14
2	-2
3	10
4	12
5	9
6	22
7	1
8	-20
9	5
10	9

Mean = 6

S = 12.82

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